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10/560,701	05/22/2006	**Ronald P. Binstead**	2932-A-7	1949

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EXAMINER	
LAM, VINH TANG	

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2629	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/560,701	BINSTEAD, RONALD P.	
	Examiner	Art Unit	
	VINH LAM	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) *2,3 and 15* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-14 and 16-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the **first paragraph** of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claim **1** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The limitation of Claim **1** "...a plurality of ***spaced apart conductors*** *located across* ***a plane*** ..., *said plurality of* **spaced apart conductors** *comprising* ***a first series of conductors extending in a first direction*** *and a* ***second series of conductors extending in a second, different, direction***" is not enabling since the spaced apart conductors are located in a plane and also have the first series of conductors extending in a first direction and a second series of conductors extending in a second, different, direction that would be ***short-circuited*** the touchpad and result in inoperative detection. That is the first series of conductors would be intersected by the second series of conductors since they are located in a plane and having different directions.

The following is a quotation of the **second paragraph** of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim **1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation of Claim **1** "...a plurality of ***spaced apart conductors*** *located across* ***a plane*** ..., *said plurality of* **spaced apart conductors** *comprising* ***a first series of conductors extending in a first direction*** *and a* ***second series of conductors extending in a second, different, direction***" is not clear.

How would the conductors are spaced apart in a plane at the same time having the first series of conductors extending in a first direction and the second series of conductors extending in a second direction (i.e. intersected between the first series of conductors and the second series of conductors)?

To further advance prosecution, the Examiner interprets

"...a plurality of *spaced apart conductors located across* ***a plane*** ..., *said plurality of spaced apart conductors comprising a first series of conductors extending in a first direction and a second series of conductors extending in a second, different, direction*" as

"...a plurality of *spaced apart conductors located across* ***parallel planes*** ..., *said plurality of spaced apart conductors comprising a first series of conductors extending in a first direction* ***on a plane*** *and a second series of conductors extending in a second, different, direction* ***on another plane***".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims **1**, **4-14**, **20**, **28-41**, and **45** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US PGPub. 2003/0231170)** in view of **Le-Pailleur (US PGPub. 2003/0112226)** and further in view of **Tanaka et al. (US PGPub. 2004/0017364).**

Regarding Claim **1**, (Currently Amended) **Yoshikawa et al.** teach a capacitive *([**0051**], FIG. **1**, i.e. capacitive coupling)* touchpad *([**0051**], FIG. **1**, i.e. digitizing tablet **1**)* comprising a plurality of spaced apart conductors *([**0051**], FIG. **1**, i.e. column electrodes **6** and row electrodes **7**)* located across [a] (parallel) plane(s) of a supporting medium *([**0051**], FIG. **1**, i.e. upper and lower planes of insulating sheet **8**)*, said plurality of spaced apart conductors comprising a first series of conductors extending in a first direction [on a plane] *([**0051**], FIG. **1**, i.e. column electrodes **6**)* and a second series of conductors extending in a second, different, direction [on another plane] *([**0051**], FIG. **1**, i.e. row electrodes **7**)*, wherein said supporting medium *([**0051**], FIG. **1**, i.e. insulating sheet **8**)* supports said plurality of spaced apart conductors

*([**0051**], FIG. **1**, i.e. column electrodes **6** and row electrodes **7**)* wherein there is no electrical contact between said plurality of spaced apart conductors *([**0051**], FIG. **1**)*, each of said spaced apart conductors being sensitive to a proximity *([**0056**], FIG. **1**, i.e. electrodes **7** to couple)* of a finger *([**0056**], FIG. **1**, i.e. stylus pen **9**; or [**0024**], i.e. **finger**)* to modify a capacitance of said spaced apart conductor *([**0056**], FIG. **1**, i.e. **capacitive dielectric**)* to detect the presence of the finger positioned close to said spaced apart conductor *([**0056**], FIG. **1**, i.e. stylus pen **9** ... near ...electrodes **7** to couple).*

However, **Yoshikawa et al.** do not teach an electrically conductive medium location and its function.

In the same field of endeavor, **Le-Pailleur** teaches

an electrically conductive medium *([**0031**], FIG. **1**, i.e. conducting parts **3**)* located in a plane *([**0031**], FIG. **1**, i.e. obviously formed by conducting parts **3**)* that is substantially parallel to the plane of the supporting medium *([**0031**], FIG. **1**, i.e. surface **2** and/or medium between electrodes **E1-E2**, **E1'-E2**,' and conducting parts **3**),*

said electrically conductive medium being proximal to said plurality of spaced apart conductors *([**0031**], [**0032**], FIG. **1**, i.e. electrodes **E1-E2** and **E1'-E2'**)* to concentrate an electric field between said plurality of spaced apart conductors towards the plane of said supporting medium *([**0031**], [**0032**], FIG. **1**, i.e. obviously resulted in "a high interaction capacitance")* and adapted to locally modify a capacitive environment between a subset of said plurality of spaced apart conductors *([**0033**], FIG. **1**, i.e. obviously that the capacitance would be altered in the present of finger 10 so that*

location detection would be determined) without distortion of said conductive medium *([**0031**], FIG. **1**, i.e. obviously metal characteristic of conducting parts **3**).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** teaching of a touchpad having conductors supported by a medium with **Le-Pailleur** teaching of an electrically conductive medium location and its function *to accurately detect user (e.g. finger) input.*

However, **Yoshikawa et al.** and **Le-Pailleur** do not teach that the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square.

In the same field of endeavor, **Tanaka et al.** teach that the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square *([**0320**]).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.** and **Le-Pailleur** teaching of a touchpad having conductors supported by a medium and an electrically conductive medium location and its function with **Tanaka et al.** teaching of the conductive medium has a resistivity in the range of 100 ohms per square to 10,000,000 ohms per square *to improve accuracy of a pointing object detection and to reduce cost of design, engineering, parts, and manufacturing processes.*

Regarding Claim **4**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Le-Pailleur** teaches said electrically conductive medium is adapted to accentuate the variation in capacitance of a conductor and to control the dispersion of a

resulting capacitive signal propagating from substantially the proximity of the finger *([**0031**], [**0032**], FIG. **1**, i.e. obviously resulted in "a high interaction capacitance").*

Regarding Claim **5**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach said supporting medium is electrically insulating *([**0051**], FIG. **1**, i.e. insulating sheet **8**).*

Regarding Claim **6**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Le-Pailleur** teaches said conductive medium is in the form of a conductive layer covering at least a portion of said supporting medium *([**0031**], [**0032**], FIG. **1**).*

Regarding Claim **7**, (Previously Presented) the touchpad as claimed in claim 6, wherein **Le-Pailleur** teaches said conductive layer is discontinuous *([**0031**], [**0032**], FIG. **1**).*

Regarding Claim **8**, (Previously Presented) the touchpad as claimed in claim 6, wherein **Le-Pailleur** teaches said conductive layer is selectively supported by a first surface of said supporting medium *([**0031**], [**0032**], FIG. **1**)* or a first surface of a dielectric medium.

Regarding Claim **9**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Le-Pailleur** teaches said dielectric medium has a thickness which is relatively large as compared to the thickness of said conductive layer *([**0031**], [**0032**], FIG. **1**).*

Regarding Claim **10**, (Previously Presented) the touchpad as claimed in claim 6, **Le-Pailleur** teaches further comprising a non-conductive layer proximate to

said conductive layer, wherein said non-conductive layer is configured to prevent direct user contact with the conductive layer *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **11**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Le-Pailleur** teaches said supporting medium and said conductive layer are separated by said dielectric medium *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **12**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Le-Pailleur** teaches said conductive layer is sandwiched between said supporting medium and said dielectric medium *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **13**, (Previously Presented) the touchpad as claimed in claim 8, wherein **Le-Pailleur** teaches said supporting medium is sandwiched between said conductive layer and said dielectric medium *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **14**, (Previously Presented) the touchpad as claimed in claim 8, **Le-Pailleur** teaches comprising a further conductive layer proximate to said dielectric medium and sandwiching said dielectric medium between said further conductive layer and said conductive layer *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **20**, (Previously Presented) the touchpad as claimed in claim 14, wherein **Le-Pailleur** teaches said further conductive layer is supported by a second surface of said dielectric medium, said second surface being in substantially opposed relation to said first surface of said dielectric medium *([**0031**], [**0032**], FIG. **1**)*.

Regarding Claim **28**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Tanaka et al.** teach said supporting medium and said conductive medium are formed as a single conductive support and sensing layer *([**0318**])*.

Regarding Claim **29**, (Currently Amended) the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach said single conductive support and sensing layer is formed from a bulk doped medium having a bulk conductivity *([**0318**])*.

Regarding Claim **30**, (Currently Amended) the touchpad as claimed in claim 29, wherein **Tanaka et al.** teach said bulk doped medium is glass or plastic comprising a dopant of conductive material *([**0340**])*.

Regarding Claim **31**, (Currently Amended) the touchpad as claimed in claim 30, wherein **Tanaka et al.** teach said conductive material is selectively particulate or fibrous *([**0321**])*.

Regarding Claim **32**, (Currently Amended) the touchpad as claimed in claim 31, wherein said particulates may be selectively formed from metal or metal oxides with a size up to 10 microns wide is an obvious *Choice of Design*.

Regarding Claim **33**, (Currently Amended) the touchpad as claimed in claim 31, wherein said the fibrous material may be selectively formed from nanotubes or carbon fibers with a length up to 10 millimeters is an obvious *Choice of Design*.

Regarding Claim **34**, (Currently Amended) the touchpad as claimed in claim 28, wherein **Tanaka et al.** teach said plurality of conductors are substantially contained within said single conductive support and sensing layer *([**0318**])*.

Regarding Claim **35**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach said plurality of conductors are each electrically insulated *([**0051**], FIG. **1**, i.e. column electrodes **6** and row electrodes **7**)*.

Regarding Claim **36**, (Previously Presented) the touchpad as claimed in claim 35, wherein **Tanaka et al.** teach each conductor of said plurality of conductors is coated with an electrically insulating sheath (**[0006]**).

Regarding Claim **37**, (Previously Presented) the touchpad as claimed in claim 28, wherein said conductive support and sensing layer has a textured surface in the form of surface distortions for the redirection of a point of touch which is an obvious *Choice of Design*.

Regarding Claim **39**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach said touchpad is resilient *(**[0054]**, Fig. **1**).*

Regarding Claim **40**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach said touchpad is deformable *(**[0054]**, Fig. **1**).*

Regarding Claim **41**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Tanaka et al.** teach said conducting medium is selectively Indium Tin Oxide (ITO) or Antimony Tin Oxide (ATO) *(Col. **30**, **[0340]**).*

Regarding Claim **45**, (Previously Presented) the touchpad as claimed in claim 1, wherein **Yoshikawa et al.** teach said plurality of conductors comprises a first series of spaced-apart conductors and a second series of spaced apart conductors disposed in intersecting relation *(**[0051]**, FIG. **1**, i.e. column electrodes **6** and row electrodes **7**).*

4. Claims **16**-**19**, **21**-**27**, and **38** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US PGPub. 2003/0231170)** in view of **Le-Pailleur**

(US PGPub. 2003/0112226) in view of **Tanaka et al. (US PGPub. 2004/0017364)** and further in view of **Vranish (US PGPub. 2002/0000977).**

Regarding Claim **16**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach the touchpad as claimed in Claim 1.

However, **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** do not teach the conductive medium electrically floats or is grounded to earth.

In the same field of endeavor, **Vranish** teaches said conductive medium electrically floats or is grounded to earth *([0031], Fig. 3).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Vranish** teaching of the conductive medium electrically floats or is grounded to earth to reduce background noise and electromagnetic interference.

Regarding Claim **17**, (Previously Presented) **Vranish** teaches the touchpad as claimed in claim 16, wherein said conductive medium is selectively grounded by a wire or a resistor *([0031], Fig. 3).*

Regarding Claim **18**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach the touchpad as claimed in claim 6.

However, **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** do not teach the conductive layer comprises a plurality of electrically isolated conductive regions

selectively separated by regions of a first surface of said supporting medium or first surface of said dielectric medium.

In the same field of endeavor, **Vranish** teaches a plurality of electrically isolated conductive regions selectively separated by regions of a first surface of said supporting medium or first surface of said dielectric medium *([**0031**], Figs. **2** & **3**)*.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Vranish** teaching the conductive layer comprises a plurality of electrically isolated conductive regions selectively separated by regions of a first surface of said supporting medium or first surface of said dielectric medium *to apply the technology not only to a touchpad but also to a keypad.*

Regarding Claim **19**, (Previously Presented) the touchpad as claimed in claim 18, wherein **Vranish** teaches the separations between said conductive regions are relatively small compared to the width of said conductive regions, so as to selectively allow capacitive coupling of adjacent regions via said supporting medium or said dielectric medium *([**0031**], Figs. **2** & **3**).*

Regarding Claim **21**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach the touchpad as claimed in claim 20.

However, **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** do not teach wherein said further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of said second surface of said dielectric medium.

In the same field of endeavor, **Vranish** teaches wherein said further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of said second surface of said dielectric medium *([**0031**], Figs. **2** & **3**).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Vranish** teaching of said further conductive layer comprises a plurality of electrically isolated conductive regions separated by regions of said second surface of said dielectric medium *to correspondingly adapt to the keypad design.*

Regarding Claim **22**, (Previously Presented) the touchpad as claimed in claim 21, wherein **Vranish** teaches said conductive regions on said first surface of said dielectric medium and said conductive regions on said second surface of said dielectric medium are registered to each other by virtue of corresponding substantially coterminous areas *([**0031**], Figs. **2** & **3**).*

Regarding Claim **23**, (Previously Presented) the touchpad as claimed in claim 21, wherein said conductive regions on said first surface of said dielectric medium and said conductive regions on said second surface of said dielectric medium are registered to each other by virtue of corresponding overlapping non-coterminous areas which is an obvious *Choice of Design* disclosed by applicant's disclosure *([**0094**], [**0095**]).*

Regarding Claim **24**, (Previously Presented) the touchpad as claimed in claim 22, wherein **Vranish** teaches said registered regions are capacitively coupled via said dielectric medium *([0045], Table 1).*

Regarding Claim **25**, (Previously Presented) the touchpad as claimed in claim 18, wherein **Vranish** teaches said conductive regions are substantially rectangular *(Fig. 2).*

Regarding Claim **26**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach the touchpad as claimed in claim 8.

However, **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** do not teach said conductive layer comprises a plurality of electrically isolated conductive regions selectively separated by regions of said first surface of said supporting medium or said first surface of said dielectric medium, each conductive region of said plurality of conductive regions being linked by one or more conductive bridges to adjacent conductive regions, said conductive bridges having a width substantially smaller than the width of said conductive regions.

In the same field of endeavor, **Vranish** teaches said conductive layer comprises a plurality of electrically isolated conductive regions selectively separated by regions of said first surface of said supporting medium or said first surface of said dielectric medium, each conductive region of said plurality of conductive regions being linked by one or more conductive bridges to adjacent conductive regions, said conductive bridges having a width substantially smaller than the width of said conductive regions *([0047], Fig. 6).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Vranish** teaching of said conductive layer comprises a plurality of electrically isolated conductive regions selectively separated by regions of said first surface of said supporting medium or said first surface of said dielectric medium, each conductive region of said plurality of conductive regions being linked by one or more conductive bridges to adjacent conductive regions, said conductive bridges having a width substantially smaller than the width of said conductive regions *to adjust the resistivity to a desired specification.*

Regarding Claim **27**, (Previously Presented) the touchpad as claimed in claim 26, wherein **Vranish** teaches said conductive regions have a relatively large thickness and said conductive bridges have a relatively small thickness to increase the resistance in said conductive layer *([0047], Fig. 6).*

Regarding Claim **38**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach the touchpad as claimed in claim 1.

However, **Yoshikawa et al.** and **Tanaka et al.** do not teach said touchpad is arranged into a non-planar configuration.

In the same field of endeavor, **Vranish** teaches said touchpad is arranged into a non-planar configuration (Fig. **4**).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Vranish** teaching of said touchpad is arranged into

a non-planar configuration *to apply the technology not only to a touchpad but also to other input devices.*

5. Claims **42** and **44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US PGPub. 2003/0231170)** in view of **Le-Pailleur (US PGPub. 2003/0112226)** in view of **Tanaka et al. (US PGPub. 2004/0017364)** and further in view of **Lin et al. (US Patent No. 6954868).**

Regarding Claim **42**, (Previously Presented) **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teach a touchpad system including a touchpad as claimed in claim 1.

However, **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** do not teach a sensing circuit comprising a touch detector circuit and a wake up circuit, said sensing circuit periodically sleeping and waking to measure the state of said touchpad, wherein in response to a touch, said sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position.

In the same field of endeavor, **Lin et al.** teach a sensing circuit comprising a touch detector circuit and a wake up circuit, said sensing circuit periodically sleeping and waking to measure the state of said touchpad, wherein in response to a touch, said sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position *(Col. **8**, Ln. **1**-**28**, Fig. **4**).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Le-Pailleur**, and **Tanaka et al.** teaching of touchpad structures with **Lin et al.** teaching of a sensing circuit comprising a touch detector circuit and a wake up circuit, said sensing circuit periodically sleeping and waking to measure the state of said touchpad, wherein in response to a touch, said sensing circuit wakes up, if sleeping, and scans the surface to determine the touch position *to reduce the power consumption utilizing sleep and wake up states*.

Regarding Claim **44**, (Previously Presented) the touchpad system as claimed in claim 42, wherein the power consumption of said sensing circuit is less than about 10 microamps when sleeping is an obvious Choice of Design.

6. Claim **43** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yoshikawa et al. (US PGPub. 2003/0231170)** in view of **Le-Pailleur (US PGPub. 2003/0112226)** in view of **Tanaka et al. (US PGPub. 2004/0017364)** in view of **Lin et al. (US Patent No. 6954868)** in view of **Lin et al. (US Patent No. 6954868)** and further in view of **Files et al. (US Patent No. 5657053).**

Regarding Claim **43**, (Original) **Yoshikawa et al.**, **Le-Pailleur**, **Tanaka et al.**, and **Lin et al.** teach the touchpad system as claimed in claim 42.

However, **Yoshikawa et al.**, **Tanaka et al.**, and **Lin et al.** do not teach the touch is detected in less than about 3 microseconds.

In the same field of endeavor, **Files et al.** teach the touch is detected in less than about 3 microseconds.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine **Yoshikawa et al.**, **Tanaka et al.**, and **Lin et al.** teaching of touchpad structures, detection circuit for sleeping and awaking modes with **Files et al.** teaching of the touch is detected in less than about 3 microseconds *in order to benefit of quickly responding and deactivating when touch being detected.*

Response to Arguments/Amendments/Remarks

7. Claim **15** is canceled.

8. Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH T. LAM whose telephone number is (571)270-3704. The examiner can normally be reached on M-F (7:00-4:30) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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